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Some past results and future prospects for technical instruments to sense deception.

THE POLYGRAPH IN AGENT INTERROGATION

Chester C. Crawford

Philosophers and psychologists, and indeed most of mankind, have always been fascinated with the phenomenon of lying as an aspect of human behavior. It is only during the past sixty years, however, that researchers and investigators have proceeded beyond the study of its cognitive phase (the decision to lie) and behavioral phase (the overt act which deceives) to examine its emotional phase (the ensuing bodily agitation), which is the most significant of the three for purposes of detection. It is therefore only recently that attempts to detect deception have advanced from the uncertainty of personal judgment and the brutality of primitive physical ordeals and torture to the use of scientific aids in humane interrogation. The "lie detector" or polygraph in use today, a simple but sensitive device for tracing blood pressure, respiration, and perspiration, is the most advanced instrument thus far developed for the detection of deception.

Deception is intrinsic to espionage activity: the ability of a clandestine operator to deceive his opponent is his most critical qualification. Conversely, however, the ability to detect the deceptions of the opposition is the most critical requirement of a counterintelligence force, and it was inevitable that the polygraph would become a counterintelligence aid. Although the use of this instrumental technique is associated in the popular mind primarily with criminal apprehension, the history of its application in clandestine government operations is almost as long as that of its connection with police matters.

One of the first plans for instrumental means to detect deception was in connection with clandestine operations. In October 1917, at the request of the Psychological Committee of the National Research Council, research was undertaken at Harvard University to investigate the value of using instru-

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ments in deception tests on World War I court-martial cases and in Military Intelligence Department investigations of suspected enemy agents. Early in World War II an officer of the Berkeley Police Department in California advocated the use of the lie detector in the interests of national defense. In 1945 Leonarde Keeler carried out polygraphic experimentation on several hundred prisoners of war in Rhode Island with an eye to assessing the practicability of lie detection programs in government agencies.

Successes of a CIA Program

On 12 August 1948 CIA ran its first polygraph case—the routine security screening of an applicant. In 1949 it began planning the use of the technique in Europe to test the honesty of agents recruited for clandestine operations. In 1951 it conducted polygraph experiments in the Far East. By 1952 the CIA polygraph program was operating on a world-wide basis. Its effectiveness in practice has firmly established it as a valuable adjunct to clandestine operations.

Its achievements can be illustrated in three studies analyzing the results of polygraphic interrogation over sample periods of time in operational cases from particular geographical areas. The first, covering the period from inauguration to 1953, is based on the area interrogators' reports for some three hundred cases. The use of the polygraphic technique elicited not otherwise obtainable admissions of deception in the following categories from the indicated numbers of the 300 agents.

Falsification of vital statistics (age, birthplace, employment, education, etc.)	32
Concealment of past membership in Communist and Communist-front organizations	16
Concealment of other past Communist activities	23
Deception regarding past association with hostile or friendly foreign intelligence services	18
Deception regarding past criminal arrests	22
Concealment of past undetected crimes	17
Concealment of aliases	11
Deception regarding security violations	23
Deception regarding medical or mental treatment	4
The filing of false reports	4
Deception regarding use of drugs	21

In addition, 21 instances of deception indicated by the polygraph but not admitted were later confirmed through other sources. Only 6 instances of indicated deception remained unconfirmed.

Thus more than one in ten of the agents and prospective agents had deliberately falsified his biographic data; honest biographic mistakes were not counted as deception. More significantly, six percent of them had hidden their past connections with other intelligence services. It is obvious that without polygraphic interrogation this sample of 300 could not have been properly assessed.

In another study 123 agent interrogation reports made in a different geographic area from January to December 1958 were carefully examined. With the aid of the polygraph the interrogators had obtained previously unknown information in the following categories from the indicated numbers of the 123 subjects:

Biographic information	61
Counterespionage information	17
Past employment by a foreign intelligence service	8
Present employment by a foreign intelligence service	4
Fabrication of reports	5
Hidden ideological affiliations	5

This time at least half the agents were shown to have practiced deception of some kind, and the percentage is still higher if the 61 listed as having misrepresented their biographies does not include all the deceivers in other categories. Six percent had worked for foreign intelligence services, and three percent were still so employed. At least ten agents were terminated as a result of these polygraph interviews. But about fifty—and this is an important positive product of the polygraph technique—were cleared of allegations that had been made against them.

The third study covers 70 agents interrogated between January and June 1959, who revealed previously unknown information as follows:

Biographic information	24
Counterespionage information	2
Past employment by another service	10
Current employment by another service	5
Fabrication of operational reports	11
Hidden ideological affiliations (usually Communistic)	6

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Here at least one agent in every three was shown to have practiced deception of some kind. One in seven was found to have had past connections with other intelligence services and one in fourteen to have current affiliations. The polygraph interrogations led to the termination of at least five of them, and twenty-three were cleared of allegations against them.

In summary, out of about five hundred agents and prospects whose polygraphic interrogations were analyzed in these three studies, from ten to fifty percent revealed deceptions of some significance. A total of thirty-six agents were shown to have previously unknown connections with other intelligence services, some of them current affiliations which presumably made them instruments of infiltration.

Procedures and Limitations

It should be strongly emphasized that these results, although unobtainable without the polygraph, must not be credited to the polygraph *in vacuo*. They were achieved by professional interrogators using the instrument as an aid to diagnose deception in their agent subjects. The interrogator is thoroughly briefed on all aspects of the subject's personality, from sense of humor to skill at sports, on all available biographic data, on questionable and verified items in the subject's account of his background, and on the extent of his access to other intelligence services. He studies the reports from any previous medical or psychiatric examinations and from any previous interrogations, particularly any previous polygraph tests. In consultation with the case officer he determines the topics to be covered in the test and constructs questions designed to elicit information on them. He is prepared to probe for detail regarding the *modus operandi*, personnel, and tradecraft of a foreign intelligence service with which the subject is suspected of having past or present contacts.

The examination begins with a pre-test period in which the interrogator and the subject preview the questions for discussion and qualification. The examiner often takes advantage of this opportunity to make his own first-hand assessment of the subject, chatting about apparently unimportant matters and watching for any tell-tale reactions or idiosyn-

cracies that may be exploited in the test. The polygraph is then connected and the test itself administered—perhaps twice, four times, or on occasion many more. Then, when indicated by a study of the charts, there follows a post-test interrogation wherein an explanation, admission, or clarification of recorded emotional responses is sought.

The polygraph lays no claim to one-hundred-percent reliability. Test results can be as varied as the individuals tested, and the interpretation of the charts is not a simple question of deciding whether the subject reacted or did not react. Many charts are quite definitive; but some indicate only a probability, and from two to five percent of the cases tested end up being classified as inconclusive, with crucial areas left unresolved.

Although sources of error in the instrument itself can be eliminated—it is not hard to maintain a perfectly functioning machine—the human variables in the interrogator and the subject are less easily controlled. And while error potential in the interrogator can be reduced by careful selection and long training, the endless variety of human subjects and their endless variety of reactions to human situations will not ever be subject to measurement with infallible precision. Different subjects tend to put different weights on the value of individual questions; deceivers may show emotional disturbance only at the points where they know their fabrication is weakest, and sometimes not even then.

For all this reservation, the polygraph technique has established its place in clandestine operations. Although in many situations there is no need for polygraphic scrutiny, the problem of veracity being more easily resolvable through other sources, in many others, as these studies show, the duplicity of an agent cannot be discovered without the use of the polygraph. Add to these revelations the previously unknown information of a positive nature that is a by-product of an agent's polygraph test and the many cases of confirmed veracity that enable a project to get under way, and the value of the technique to clandestine operations becomes a thing beyond debate.

A more general dividend realized from the polygraph is its disciplinary effect on the agent. He is usually a better clan-

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destine operator after being polygraphed. He realizes that he is working for a highly professional service, concerned about security for itself and for him. He sees that he will be expected to account for his activities. Loyal agents almost always appreciate this attitude and look with greater respect on the American service after their "ordeal."

An even greater role may be played by the technical detection of deception in clandestine operations of the future. There are indications that sensational developments are about to occur in its instrumentation, and drastic changes in technique made possible by the utilization of new recording devices. The polygraph of the future may require no physical attachments on the subject, perhaps utilizing electronic circuitry to tap physiological phenomena far more subtle but every bit as diagnostic as the currently used blood pressure tracings, respiration recordings, etc. It is unlikely that improvements will ever fully eliminate the human variables that make any technical assessment less than infallible, but a paper written on this subject ten years from now may show the uncertainties and limitations still further reduced.

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